A NEW SPECIES OF *CAREX* (CYPERACEAE) FROM URUGUAY AND A NEW NAME IN THE GENUS

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ABSTRACT

Carex herteri (sect. *Digitatae*) is newly described from the Department of Florida in southern Uruguay and is known only from the holotype. This very distinctive, but diminutive species is characterized by having large, glabrous perigynia that are distinctly beaked, few perigynia per spike, large achenes that are strongly apiculate, and ciliate leaf margins. Additionally, the South American plants previously called *C. phalaroides* var. *crassiflora* (sect. *Digitatae*) are here raised to species rank. The name *C. gibertii* is offered for this species and a lectotype is selected.

RESUMEN

Se describe *Carex herteri* (sect. *Digitatae*) del Departamento de Florida en sur de Uruguay y sólo se conoce el holotipo. Esta especie, muy diferente aunque diminuta, se caracteriza por tener utrículos grandes y glabros, con un pico distinto, pocos utrículos por espiga, aquenios grandes fuertemente apiculados, y márgenes foliares ciliados. Adicionalmente, las plantas sudamericanas denominadas previamente *C. phalaroides* var. *crassiflora* (sect. *Digitatae*) se elevan aquí al rango específico. Se propone para esta especie el nombre *C. gibertii* y se selecciona un lectotipo.

INTRODUCTION

It is estimated that over 200 species of *Carex* L. (Cyperaceae) occur in South America (Wheeler 1996). Of those growing in the southern half of the continent, slightly under 20 have been reported from Uruguay (Osten 1931; Chebataroff 1942; Herter 1953; Pedersen 1969; Wheeler 1987, 1988). In this paper, a new species of *Carex* is reported from the Department of Florida in southern Uruguay. In addition, a new name is offered here for plants previously called *C. phalaroides* Kunth var. *crassiflora* Kük., which occur in southeastern South America.

DESCRIPTIONS AND COMMENTS

Carex herteri G. A.Wheeler, sp. nov. (Fig. 1)

Herbae laxae caespitosae, parvae; culmi ca. 2 cm alti; vaginae basales glabrae, brunneae. Folia ca. 7, plerumque basilaria, superare culmi; laminae ca. 1.5–4 cm longae, 0.8–2 mm latae, marginibus ciliatis; ligulae 0.5–1 mm longae. Inflorescentiae ca. 1.5 cm longae; spicae ca. 3, androgynae, 3–4-florae, inferiore breve pedunculatae. Perigynia 4.4–4.8 mm

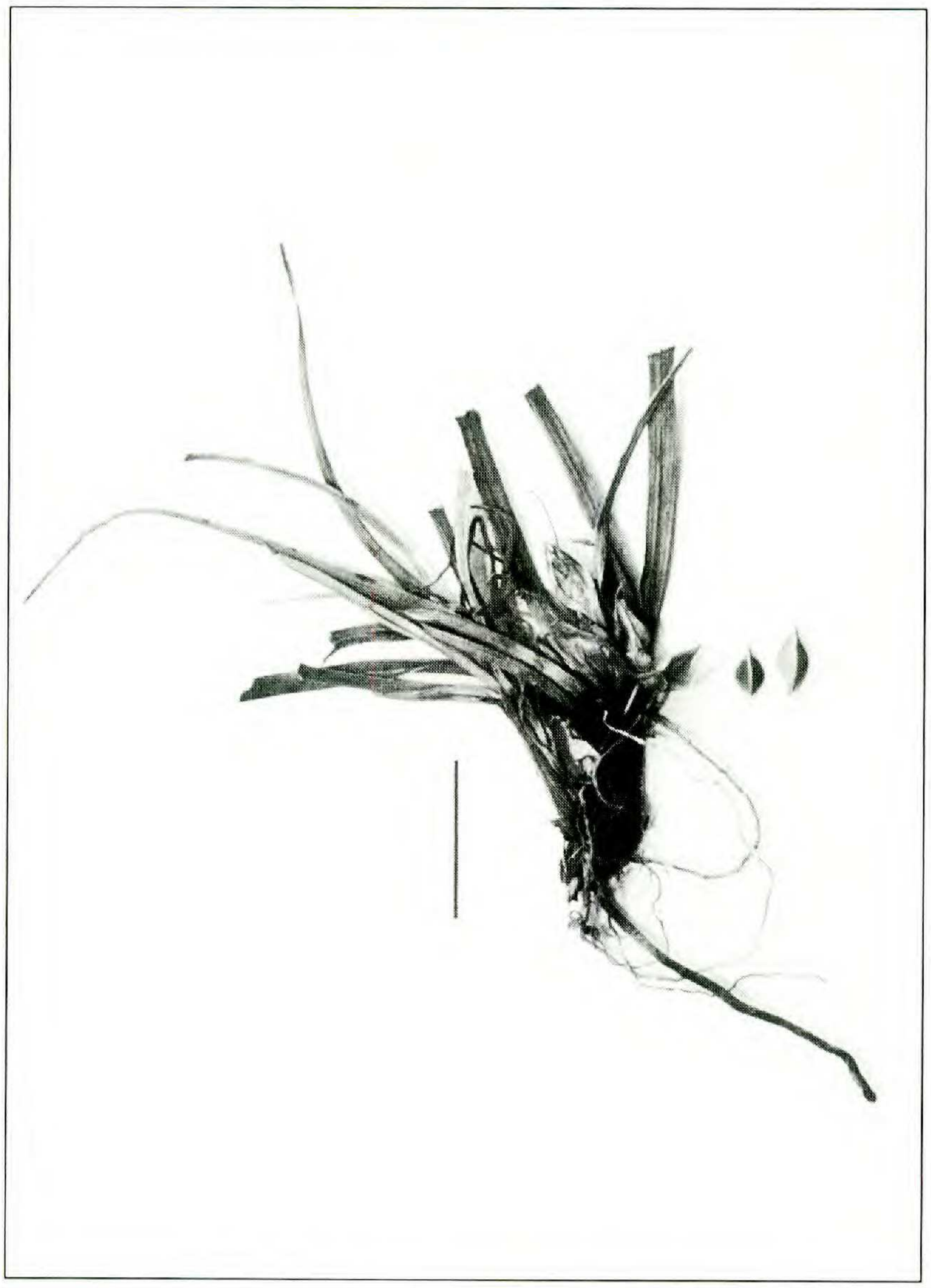

FIG. 1. *Carex herteri*, habit with achene and perigynium to the right and far right of the plant, respectively (plant from the Department of Florida, Uruguay), from *Hb. Osten 19091* (S *partim*), holotype. Bar = 1 cm.

longa, 2–2.3 mm lata, acriter trigona, glabra, pallide viridis marginibus levis; rostra 0.8–1.2 mm longa. Achenium 3.3–3.5 mm longum, 1.8–2 mm latum, acriter trigoni, brunnei cum flavis anguli. Stigmata 3.

Plants loosely cespitose from short rhizomes, low-growing. Fertile culms ca. 2 cm tall, with glabrous, brownish basal sheaths. Leaves ca. 7, basal, exceeding the culms; blades ca. 1.5–4 cm long, 0.8–2 mm wide, flat or channelled proximally, the margins ciliate (but only sparingly so near the apex); leaf sheaths very short, glabrous; inner band of leaf sheaths hyaline or pale brown, glabrous; ligules 0.5–1 mm long, rounded. Inflorescences ca. 1.5 cm long, the terminal spike slightly larger than the lateral ones,

spikes strongly overlapping; lowermost bract scale-like, 3.5–5 mm long, ca. 2.5 mm wide, sheathless, with a ciliate awn ca. 0.8 mm wide and up to 2.5 cm long, the upper ones somewhat reduced. Spikes ca. 3, androgynous. Terminal spikes ca. 1 cm long; staminate portion ca. 8 mm long and 2.5 mm wide, ca. 7-flowered; pistillate portion ca. 6 mm long and 4.5 mm wide, ca. 3-flowered. Lateral spikes 5–7 mm long, on smooth peduncles up to 4 mm long; staminate portion inconspicuous, ca. 2–3-flowered; pistillate portion ca. 4–6 mm long and 4–5 mm wide, ca. 3–4-flowered. Pistillate scales exceeding the perigynia (at least the prolonged tips), the bodies 3.6–5 mm long, 1.8–2.6 mm wide, ovate-lanceolate, glabrous, pale green or stramineous center with broad, white hyaline or pale brown margins, 3-veined, the midvein prolonged into a cuspidate or sparingly aristate tip up to ca. 12 mm long. Staminate scales with bodies 3.4–4.2 mm long and 1.3–1.9 mm wide, ovate-lanceolate, glabrous, pale green or stramineous center with broad, white hyaline or pale brown margins, 3-veined, the midvein prolonged into a cuspidate or sparingly aristate tip up to 4 mm long. Perigynia 4.4–4.8 mm long, 2–2.3 mm wide, erect or somewhat spreading, strongly trigonous with slightly concave, elliptical to rhombic sides, glabrous, pale green or stramineous, 2 distinct veins and the rest obscure (however, several short veins are usually visible near the base), not inflated, the margins sharply angled and smooth, tapered to a stipitate-like base (ca. 0.6–1.2 mm long), more or less abruptly contracted into a broad beak; beaks 0.8–1.2 mm long, whitish green (especially distally), the apex entire or minutely bidentulate, the teeth (when present) weak and up to 0.1 mm long. Achenes 3.3–3.5 mm long, 1.8–2 mm wide, sharply trigonous with slightly concave, rhombic sides, closely enveloped by the perigynium, brown with yellowish angles, apiculate, sessile or nearly so. Stigmas 3. Anthers unknown.

Serendipity undoubtedly plays a role in scientific discovery. For instance, W. G. Herter apparently was not aware that he had discovered a new species when collecting plants of the commonly-occurring *Carex phalaroides*. On the herbarium sheet containing the holotype of *C. herteri* are seven plants of *C. phalaroides* and a single plant of the new species (Fig. 1).

TYPE: URUGUAY. DEPT. FLORIDA: Estancia Santa Cruz, in campis, Sep 1926, legit. W. G. Herter, *Hb. Osten 19091* (S! *partim*). The holotype is a single plant mounted in the far upper right hand corner of the herbarium sheet, where it is so marked.

Carex herteri is known only from the type locality (Fig. 2). The plant was collected "in campis" (on a plain) and has fully-developed perigynia and ripe achenes. The new species is named in honor of Wilhelm G. Herter (1884–1958), who made the type collection and who also was an indefatigable worker on the flora of Uruguay.

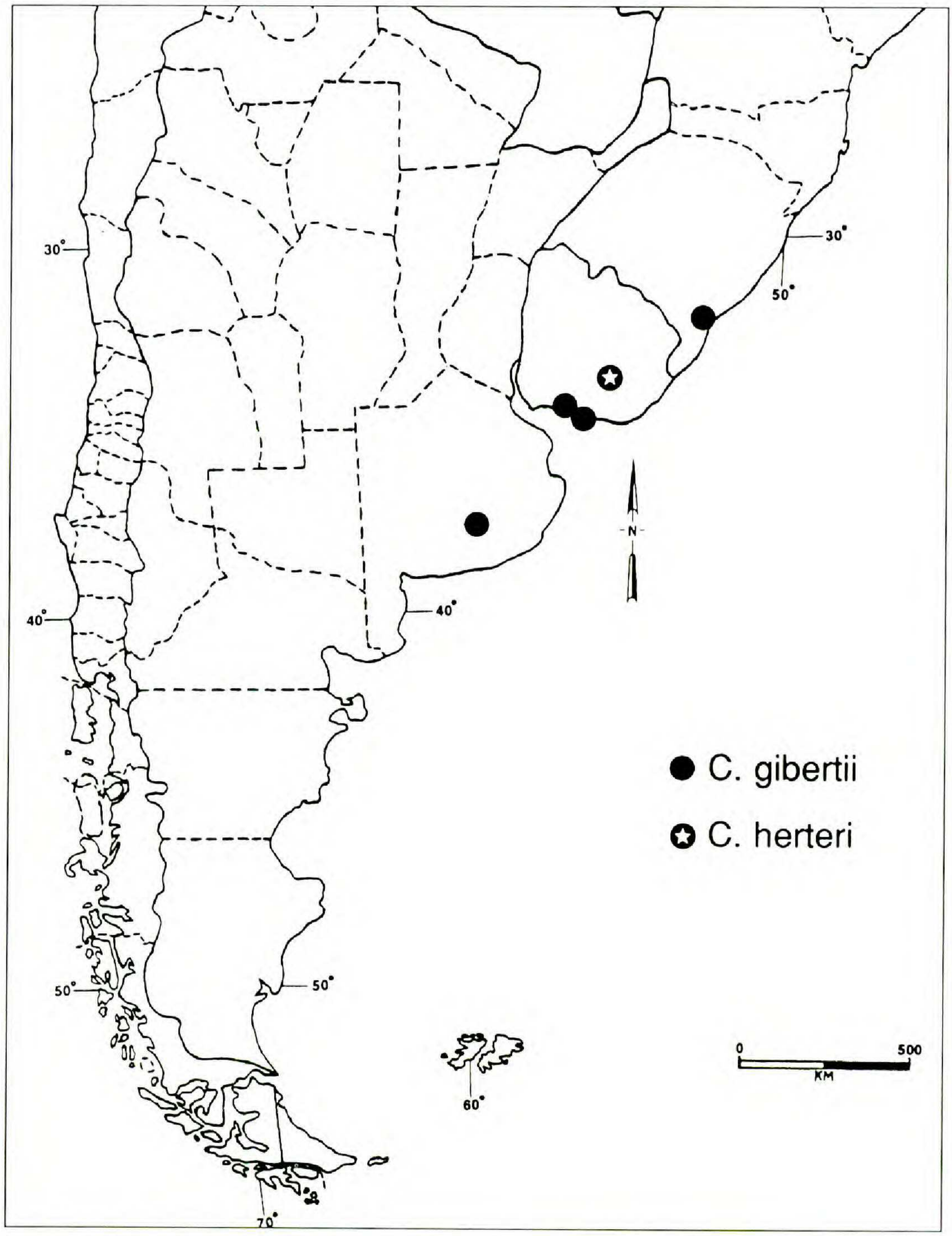

FIG. 2. Map of southern South America showing the distributions of *Carex gibertii* and *C. herteri*.

As is evident in Fig. 1, the perigynia of *Carex herteri* appear to be oversized for the diminutive stature of the plant. Indeed, the combination of large perigynia with few of them per spike, large achenes that are strongly apiculate, and leaves with ciliate margins, readily separates this species from all other Uruguayan carices. It appears to be most closely related to

members of the *C. phalaroides* species complex (sect. *Digitatae* (Fries) Christ subsect. *Radicales* Kük., sensu Kükenthal 1909), a group of mostly South American carices characterized by having androgynous spikes, cuspidate scales, and sharply trigonous achenes. Although the aspect of *C. herteri* and *C. phalaroides* is strikingly similar, they differ in several features. For example, the former differs from the latter by having: ciliate leaf margins; fewer perigynia per spike; much larger perigynia that are glabrous and distinctly beaked; larger achenes that are strongly apiculate; and differently-shaped scales. Also see Table 1.

Notably, numerous sheets of *Carex phalaroides* have been examined from eastern Argentina, southern Brazil, southeastern Paraguay, and Uruguay, but thus far only the holotype of *C. herteri* is known. It seems remarkable that a species with such large and distinctive perigynia as *C. herteri* has hitherto been overlooked. However, the diminutive stature of both *C. herteri* and *C. phalaroides*, and their physiognomic similarity to each other, undoubtedly has contributed to the former species having been overlooked in the past. Another factor may be the early fruiting date of this species. The plants are known to bear ripe achenes in early October, indicating that the species probably flowers in late July and August. Also, though as yet unverified, *C. herteri* may be a local endemic with only a few existing populations.

A NEW NAME IN SOUTH AMERICAN CAREX

Carex gibertii G. A. Wheeler, nom. et stat. nov. BASIONYM: *Carex phalaroides* Kunth var. *crassiflora* Kük., Verh. Bot. Ver. Brandenburg 47:209. 1905. TYPE: URUGUAY. [DEPART. MONTEVIDEO:] Montevideo, [Cerro de Montevideo, in saxosis, 4 Oct 1864,] *Gibert 593* (LECTOTYPE, here designated: S!; ISOLECTOTYPE: MVM?). Because the holotype at Berlin (B) was destroyed, the isotype at S, which was annotated by Georg Kükenthal (in 1904) as "*Carex phalaroides* Kunth var. *crassiflora* Kük. var. nov.," is chosen as lectotype.

Carex gibertii is an uncommonly collected species, thus far known from southern Brazil, Uruguay, and northeastern Argentina. Growing in dry sites, it flowers in late September and October and mature fruit has been collected from November through March. The epithet *crassiflora* is not available for use at species rank because of the earlier *C. crassiflora* Kük. Hence, I here offer the name *C. gibertii* for the species, after the Uruguayan botanist José Ernesto Gibert (1818–1886), who made the type collection. The plant has been illustrated in Chebataroff (1942, Lam. I, C–D).

Additional specimens examined: (*Carex gibertii*): **ARGENTINA. Prov. Buenos Aires:** Vela, 10 Mar 1910, *Stuckert 21543* (LIL). **BRAZIL. State of Rio Grande do Sul:** Pelotas, 9 Nov 1955, *Sacco 404* (F). **Uruguay. Depart. San José:** Mauricio, barrancas, Nov 1940, *Chebataroff 4016* (SI).

TABLE 1. A selected morphological comparison of *Carex gibertii*, *C. herteri*, and *C. phalaroides* in southeastern South America.

Character	*Carex phalaroides*	*Carex gibertii*	*Carex herteri*
fertile culm height (cm)	2–21	7–13	ca. 2
leaf margins	smooth or sparingly ciliolate	smooth or minutely serrulate	ciliate (but sparingly so near apex)
spike width (mm)	3–5.5(–6) (average 5)	6–10 (average 8)	4–5
number of perigynia per spike	(5–)10–40	(5–)8–35	3–4
perigynium length (mm)	2.6–3.2 (average 3)	3.2–4.6 (average 3.9)	4.4–4.8
perigynium width (mm)	1.1–1.5 (average 1.3)	1.6–2 (average 1.7)	2–2.3
perigynium vestiture	pubescent	pubescent	glabrous
perigynium beak length (mm)	beakless or nearly so	beakless or nearly so	0.8–1.2
pistillate scale average length (mm) (excluding awn)	3	4	4.5
achene length (mm)	1.5–1.9 (average 1.7)	2–2.8 (average 2.4)	3.3–3.5
achene width (mm)	0.9–1.2 (average 1.1)	1.5–1.9 (average 1.6)	1.8–2
achene apex and tip length (mm)	short apiculate, <0.2	short apiculate, <0.2	strongly apiculate, ca. 0.8
anther length (mm)	the majority <2.6	the majority >2.6	unknown

Like the new species described earlier, *Carex gibertii* is a member of the *C. phalaroides* species complex. Kükenthal (1905, 1909) and subsequent workers (Osten 1931, Chebataroff 1942) have called these plants *C. phalaroides* var. *crassiflora*, but there appears to be a real discontinuity in morphology between the two. Indeed, examination of type material, along with other specimens, reveals that the two entities are closely related yet taxonomically distinct species. *Carex gibertii* differs from *C. phalaroides* by having larger spikes, perigynia, achenes, and scales. In Table 1, I have calculated mean values of several characters for both species, and, in each case, the corresponding means are so disparate that two species are strongly suggested. For example, perigynium mean length and width in *C. gibertii* are 3.8 mm and 1.7 mm, respectively, whereas those in *C. phalaroides* are 3 mm

and 1.3 mm. Also, no intergrades between these two species have been seen. Moreover, the two apparently grow in different habitats. *Carex gibertii* has been collected "in saxosis" (rocky soil) and in "barrancas" (ravines), whereas *C. phalaroides* frequents moist meadows and grasslands, pastures, and roadside embankments.

Carex gibertii differs from *C. herteri* by having taller culms, leaves lacking marginal hairs, more perigynia per spike, smaller achenes and scales, and slightly smaller perigynia that are pubescent and shorter beaked. A morphological comparison of 13 characters for the three species discussed in this paper is given in Table 1.

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